2. Specifications

2-1 Table of Specifications

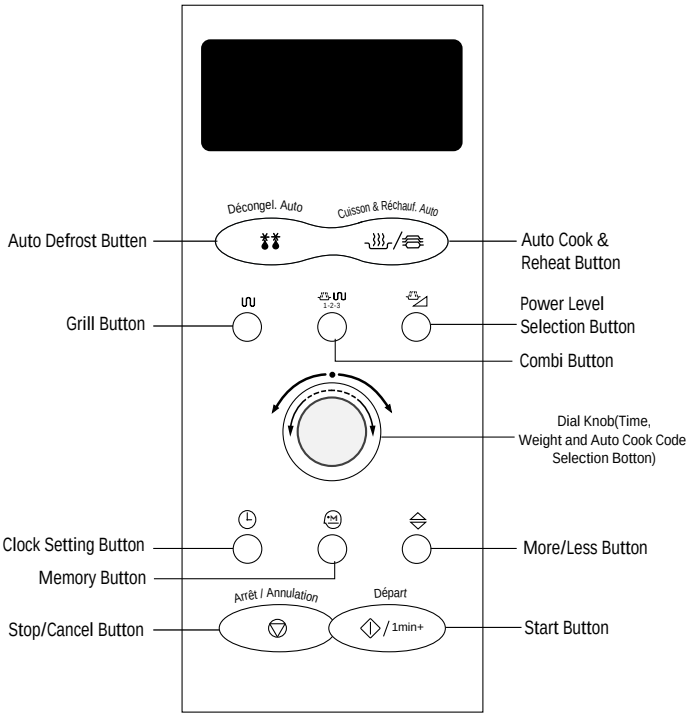
ITEM / MODEL	CE957G
TIMER	99 MINUTES 90 SECONDS
POWER SOURCE	230V/50HZ, AC
POWER CONSUMPTION	MICROWAVE : 1,500W,GRILL : 1,300W
OUTPUT POWER	FROM90 TO 900W (10 LEVEL POWER)
	(IEC-705 TEST PROCEDURE)
OPERATING FREQUENCY	2,450MHz
MAGNETRON	OM75PH(31)
COOLING METHOD	COOLING FAN MOTOR
OUTSIDE DIMENSIONS	517(W) x 298(H) x433(D)
NET WEIGHT	20 Kg
SHIPPING WEIGHT	23 Kg

2-2 Comparison Chart

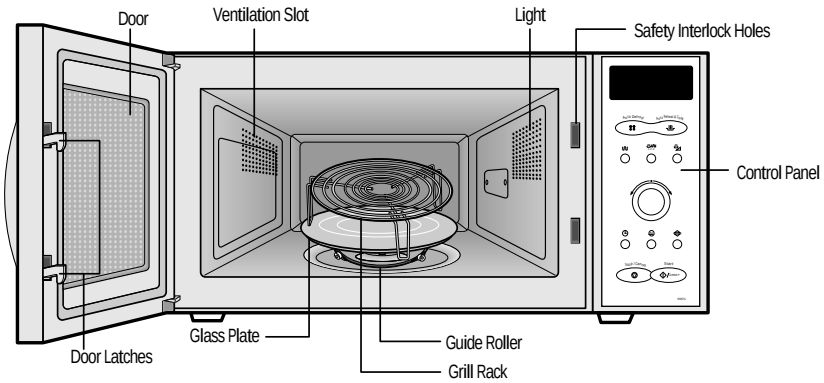
FEATURE / MODEL	CE957G
MORE/LESS	O
AUTO REHEAT	O
AUTO DEFROST	O
TIME COOK	O
POWER LEVEL	O
INSTANT REHEAT	O
MEMORY	O
BOOST	O
CHILD LOCK	O
CLOCK	O
GRILL	O
COMBI	O

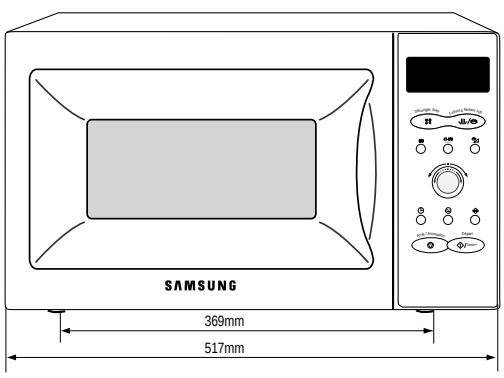
3. Operating Instructions

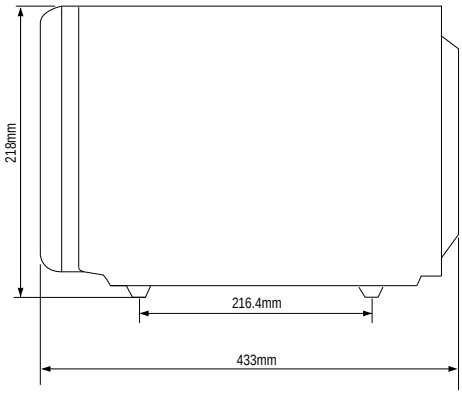
3-1 Control Panel



3-2 Features & External Views







4. Disassembly and Reassembly

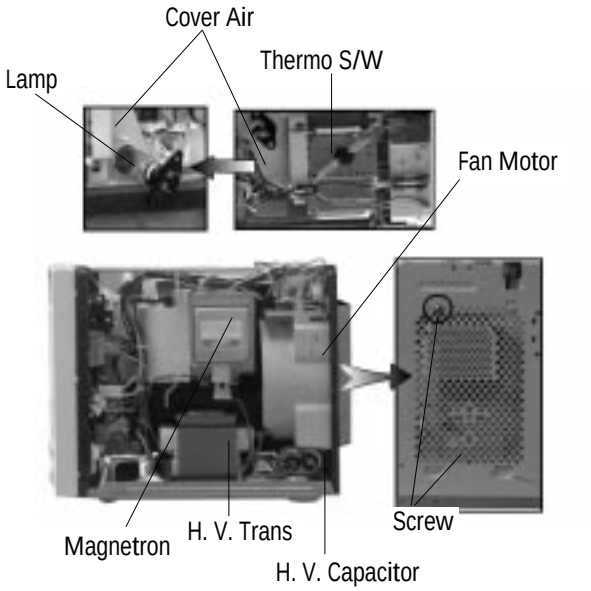
4-1 Replacement of Magnetron, Motor Assembly and Lamp

Remove the magnetron including the shield case, permanent magnet, choke coils and capacitors (all of which are contained in one assembly).

1. Disconnect all lead wires from the magnetron and lamp.
2. Remove the bracket mounting.
3. Remove the magnetron supporter
4. Remove the air cover.
5. Remove screws securing the magnetron to the wave guide.
6. Take out the magnetron very carefully.
7. Remove screws from the back panel.
8. Remove the assy noise filter.
9. Take out the fan motor.
10. Remove the oven lamp by pulling out from hole of air cover carefully.

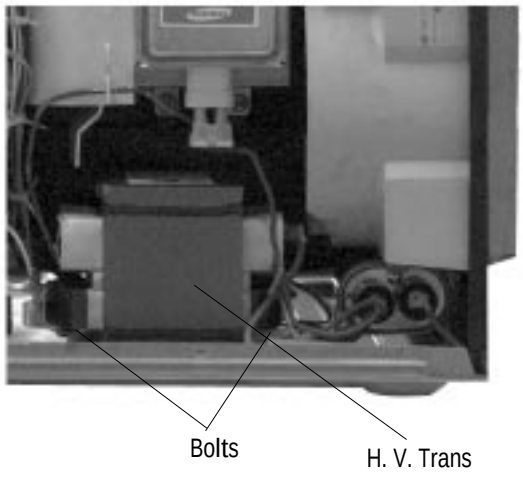
NOTE1: When removing the magnetron, make sure that its antenna does not hit any adjacent parts, or it may be damaged.

NOTE2: When replacing the magnetron, be sure to remount the magnetron gasket in the correct position and make sure the gasket is in good condition.



4-2 Replacement of High Voltage Transformer

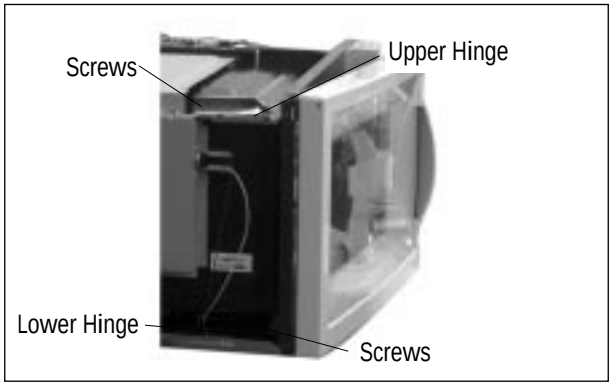
1. Discharge the high voltage capacitor.
2. Disconnect all the leads.
3. Remove the mounting bolts.
4. Reconnect the leads correctly and firmly.



4-3 Replacement of Door Assembly

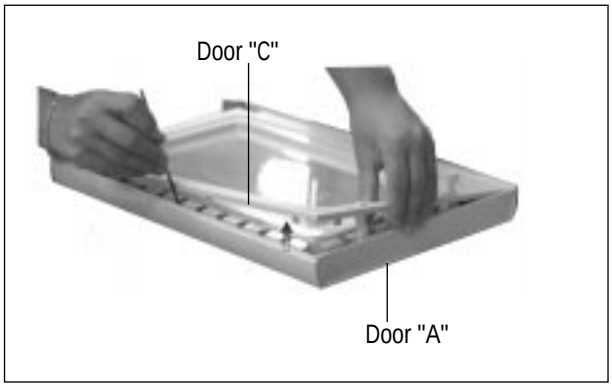
4-3-1 Removal of Door Assembly

Remove screws securing the upper hinge and lower hinge. Then remove the door assembly.



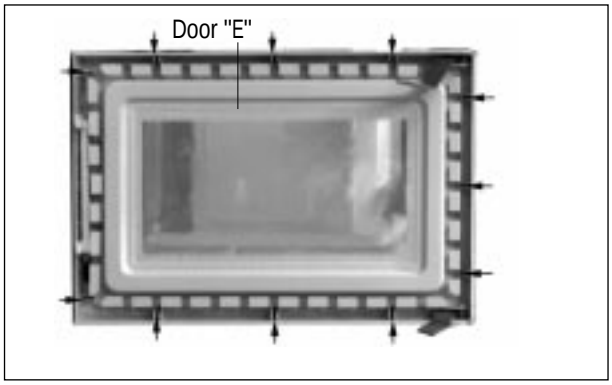
4-3-2 Removal of Door "C"

Insert flat screwdriver into the gap between Door "A" and Door "C" to remove Door "C". Be careful when handling Door "C" because it is fragile.



4-3-3 Removal of Door "E"

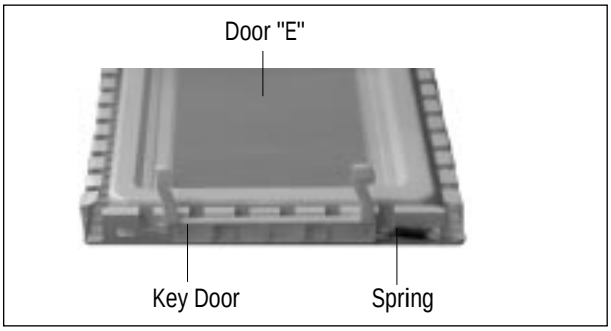
Following the procedure as shown in the figure, insert and bend a thin metal plate between Door "E" and Door "A" until you hear the 'tick' sound.



1. Insertion depth of the thin metal plate should be 0.5mm or less.

4-3-4 Removal of Key Door & Spring

Remove pin hinge from Door "E"
Detach spring from Door "E" and key door.



4-3-5 Reassembly Test

After replacement of the defective component parts of the door, reassemble it and follow the instructions below for proper installation and adjustment so as to prevent an excessive microwave leakage.

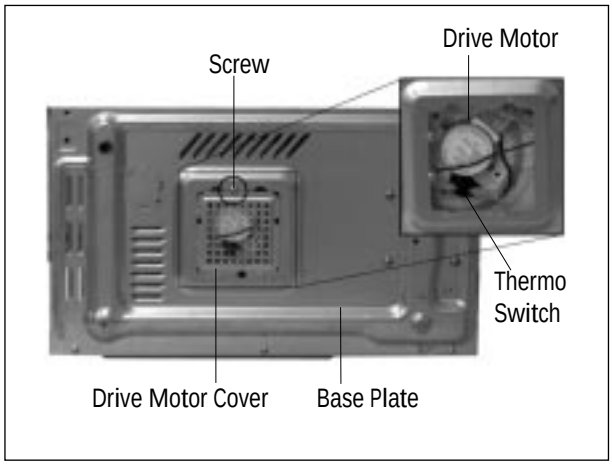
1. When mounting the door to the oven, be sure to adjust the door parallel to the bottom line of the oven face plate by moving the upper hinge and lower hinge in the direction necessary for proper alignment.
2. Adjust so that the door has no play between the inner door surface and oven front surface. If the door assembly is not mounted properly, microwave energy may leak from the space between the door and oven.
3. Do the microwave leakage test.

4-4 Replacement of Fuse

1. Disconnect the oven from the power source.
2. Remove the 10A fuse in the Noise filter.
3. When replacing the 10A fuse, be sure to use an exact replacement part. If new 10A fuse blows out again after replacement, check the primary interlock switch, door sensing switch and interlock monitor switch.
4. When the above three switches operate properly, check if any other part such as the control circuit board, blower motor or high voltage transformer is defective.

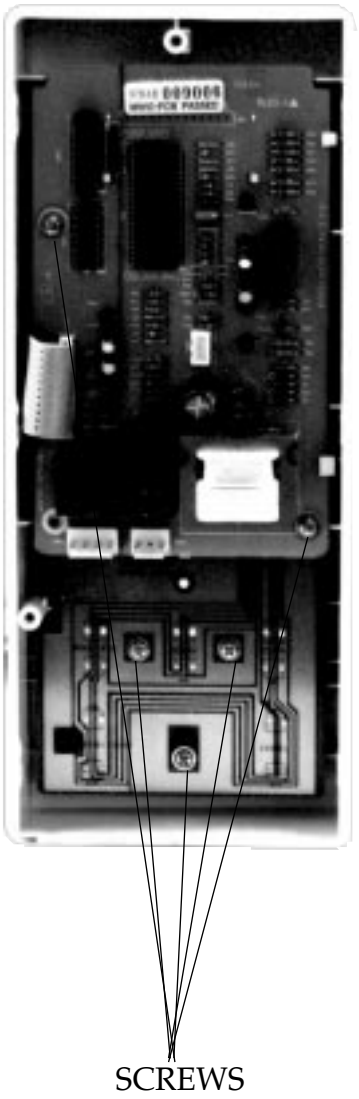
4-5 Replacement of Drive Motor

1. Take out the glass tray and guide roller from the cavity.
2. Turn the oven upside down to replace the drive motor.
3. Remove a screw securing the drive motor cover.
4. Disconnect all the lead wires from the drive motor.
5. Remove screws securing the drive motor to the cavity.
6. Remove the drive motor and coupler.
7. When replacing the drive motor, be sure to remount it in the correct position with the coupler.
8. Connect all the leads to the drive motor.
9. Screw the drive motor cover to the base plate with a screw driver.



4-6 Replacement of Control Circuit Board

1. Be sure to disclyarge any static electricity from your body, and avoid touching the "Touch control" clrcuitry.
2. Disconnect the connectors from the control circuit board.
3. Remove screws securing the control circuit bord.
4. Lift up the control circuit board from right side and remove the hooks holding the contol circuit board to the box assembly.



5. Alignment and Adjustments

PRECAUTION

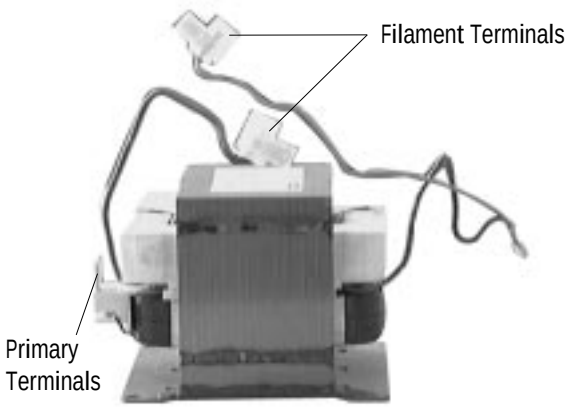
1. High voltage is present at the high voltage terminals during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components or wiring, always unplug the oven from its power source and discharge the high voltage capacitor.

5-1 High Voltage Transformer

1. Remove connectors from the transformer terminals and check continuity.
2. Normal resistance readings are as follows:

MODEL	CE957G(SHV-945EG1)
Secondary	90.0Ω ¡ 10%
Filament	Shows Continuity
Primary	1.45Ω ¡ 10%

(Room temperature = 20˚C)



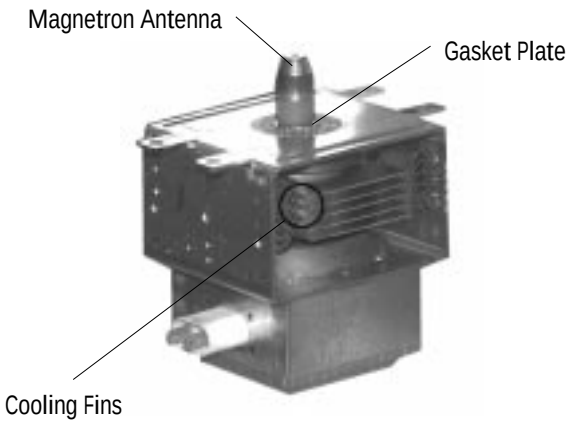
5-2 Low Voltage Transformer

1. The low voltage transformer is located on the control circuit board.
2. Remove the low voltage transformer from the PCB Ass'y and check continuity.
3. Normal resistor reading is shown in the table.

Terminals	Resistance
1~2(Input)	114.9Ω
4~5(Output17V)	12.26Ω
7~8(Output2.7V)	2.574Ω

5-3 Magnetron

1. Continuity checks can indicate only an open filament or a shorted magnetron. To diagnose an open filament or shorted magnetron :
2. Isolate the magnetron from the circuit by disconnecting its leads.
3. A continuity check across the magnetron filament terminals should indicate one ohm or less.
4. A continuity check between each filament terminal and magnetron case should read open.



5-4 High Voltage Capacitor

1. Check continuity of the capacitor with the meter set at the highest resistance scale.
2. Once the capacitor is charged, a normal capacitor shows continuity for a short time, and then indicates 9MΩ.
3. A shorted capacitor will show continuous continuity.
4. An open capacitor will show constant 9MΩ.
5. Resistance between each terminal and chassis should read infinite.

5-5 High Voltage Diode

1. Isolate the diode from the circuit by disconnecting its leads.
2. With the ohm-meter set at the highest resistance scale, measure across the diode terminals. Reverse the meter leads and read the resistance. A meter with 6V, 9V or higher voltage batteries should be used to check the front-to back resistance of the diode (otherwise an infinite resistance may be read in both directions). The resistance of a normal diode will be infinite in one direction and several hundred KΩ in the other direction.

5-6 Main Relay and Power Control Relay

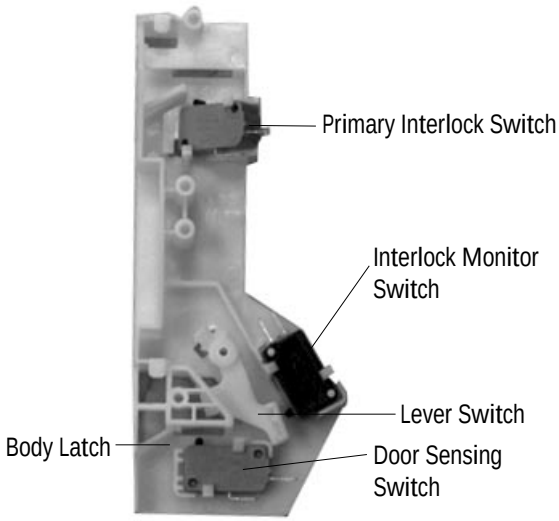
1. The relays are located on the PCB Ass'y. Isolate them from the main circuit by disconnecting the leads.
2. Operate the microwave oven with a water load in the oven. Set the power level set to high.
3. Check continuity between terminals of the relays after the start pad is pressed.

5-7 Adjustment of Primary Switch, Door Sensing Switch and Monitor Switch

Precaution

For continued protection against radiation hazard, replace parts in accordance with the wiring diagram and be sure to use the correct part number for the following switches: Primary and door sensing switches, and the interlock monitor switch (replace all together). Then follow the adjustment procedures below. After repair and adjustment, be sure to check the continuity of all interlock switches and the interlock monitor switch.

1. When mounting Primary switch and Interlock Monitor switch to Latch Body, consult the figure.
2. No specific adjustment during installation of Primary switch and Monitor switch to the latch body is necessary.
3. When mounting the Latch Body to the oven assembly, adjust the Latch Body by moving it so that the oven door will not have any play in it. Check for play in the door by pulling the door assembly. Make sure that the latch keys move smoothly after adjustment is completed. Completely tighten the screws holding the Latch Body to the oven assembly.
4. Reconnect to Monitor switch and check the continuity of the monitor circuit and all latch switches again by following the components test procedures.
5. Confirm that the gap between the switch housing and the switch actuator is no more than 0.5mm when door is closed.



	Door Open	Door Closed
Primary switch	∞	0
Monitor switch (COM-NC)	0	∞
Door Sensing S/W	∞	0

5-8 Output Power of Magnetron

CAUTION
MICROWAVE RADIATION

PERSONNEL SHOULD NOT ALLOW EXPOSURE TO MICROWAVE RADIATION FROM MICROWAVE GENERATOR OR OTHER PARTS CONDUCTING MICROWAVE ENERGY.

The output power of the magnetron can be measured by performing a water temperature rise test.
Equipment needed :
* Two 1-liter cylindrical borosilicate glass vessel (Outside diameter 190 mm)
* One glass thermometer with mercury column
NOTE: Check line voltage under load. Low voltage will lower the magnetron output. Make all temperature and time tests with accurate equipment.
1. Fill the one liter glass vessel with water.
2. Stir water in glass vessel with thermometer, and record glass vessel's temperature ("T1", 10±1˚C).
3. After moving the water into another glass vessel, place it in the center of the cooking tray. Set the oven to high power and operate for 48seconds exactly. (1.5 seconds included as a holding time of magnetron oscillation:)
4. When heating is finished, stir the water again with the thermometer and measure the temperature ("T2").
5. Subtract T1 from T2. This will give you the water temperature rise. (ΔT)
6. The output power is obtained by the following formula;

$$\text{Output Power} = \frac{4.187 \times 1000 \times \Delta T + 0.88 \times Mcx(T_2 - T_0)}{46.5}$$

46.5: Heating Time (sec)
4.187 : Coefficient for Water
1000 : Water (cc)
ΔT : Temperature Rise (T2-T1)
Mc : Cylindrical borosilicate glass weight
To : Room temperature.

7. Normal temperature rise for this model is 9˚C to 11˚C at 'HIGH'.
NOTE 1: Variations or errors in the test procedure will cause a variance in the temperature rise. Additional power test should be made if temperature rise is marginal.
NOTE 2: Output power in watts is computed by multiplying the temperature rise (step 5) by a factor of 90 times the of centigrade temperature.

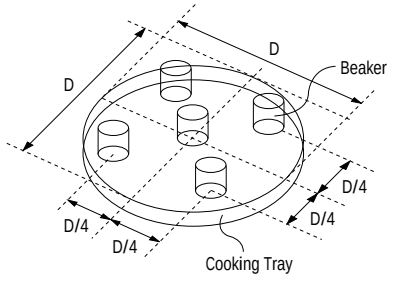
5-9 Microwave Heat Distribution - Heat Evenness

The microwave heat distribution can be checked indirectly by measuring the water temperature rise at certain positions in the oven:

1. Prepare five beakers made of 'Pyrex', having 100 milliliters capacity each.
2. Measure exactly 100milliliters off water load with a measuring cylinder, and pour into each beaker.
3. Measure the temperature of each water load. (Readings shall be taken to the first place of decimals.)
4. Put each beaker in place on the cooking tray as illustrated in figure below. Start heating.
5. After heating for 2 minutes, measure the water temperature in each beaker.
6. Microwave heat distribution rate can be calculated as follows:

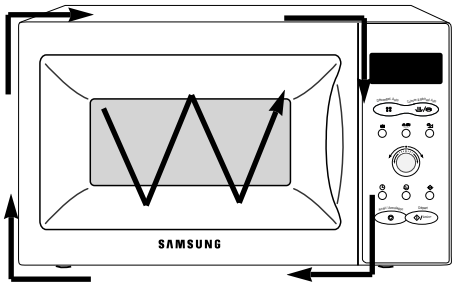
$$\text{Heat Distribution} = \frac{\text{Minimum Temperature Rise}}{\text{Maximum Temperature Rise}} \times 100(\%)$$

The result should exceed 65%.



5-10 Procedure for Measurement of Microwave Energy Leakage

1) Pour 275±15cc of 20±5˚C (68±9˚F) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
2) Start to operate the oven and measure the leakage by using a microwave energy survey meter.
3) Set survey meter with dual ranges to 2,450MHz.
4) When measuring the leakage, always use the 2 inch spacer cone with the probe. Hold the probe perpendicular to the cabinet door. Place the spacer cone of the probe on the door and/or cabinet door seam and move along the seam, the door viewing window and the exhaust openings moving the probe in a clockwise direction at a rate of 1 inch/sec. If the leakage testing of the cabinet door seam is taken near a corner of the door, keep the probe perpendicular to the areas making sure that the probe end at the base of the cone does not get closer than 2 inches to any metal. If it gets closer than 2 inches, erroneous readings may result.



5) Measured leakage must be less than 4mW/cm^2, after repair or adjustment.

> Maximum allowable leakage is 5mW/cm^2.
> 4mW/cm^2 is used to allow for measurement and meter accuracy

5-11 Check for Microwave Leakage

1. Remove the outer panel.
2. Pour 275±15cc of 20±5˚C(68±9˚F) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
3. Start the oven at the highest power level.
4. Set survey meter dual ranges to 2,450MHz.
5. Using the survey meter and spacer cone as described above, measure arnear the opening of magnetron, the surface of the air guide and the surface of the wave guide as shown in the following photo.(but avoid the high voltage components.) The neading should be less than 4mW/cm^2.

5-12 Note on Measurement

1) Do not exceed the limited scale.
2) The test probe must be held on the grip of the handle, otherwise a false reading may result when the operator's hand is between the handle and the probe.
3) When high leakage is suspected, do not move the probe horizontally along the oven surface; this may cause damage to the probe.
4) Follow the recommendation of the manufacturer of the microwave energy survey meter.

5-13 Leakage Measuring Procedure

5-13-1 Record keeping and notification after measurement

1) After adjustment and repair of a radiarion preventing device, make a repair record for the measured values, and keep the data.
2) If the radiation leakage is more than 4 mW/cm^2 after determining that all parts are in good condition, functioning properly and the identical parts are replaced as listed in this manual notift that fact to ;

SAMSUNG ELECTRONICS ITALY S.P.A
VIA F. LLI GRACCHI,48
20092-CINISELLO BALSAMO MILAN
***** ITALY**

5-13-2 At least once a year have the microwave energy survey meter checked for accuracy by its manufacturer.

6. Troubleshooting

PRECAUTION

1. CHECK GROUNDING BEFORE CHECKING FOR TROUBLE.
2. BE CAREFUL OF THE HIGH VOLTAGE CIRCUIT.
3. DISCHARGE THE HIGH VOLTAGE CAPACITOR.
4. WHEN CHECKING THE CONTINUITY OF THE SWITCHES OR TRANSFORMER, DISCONNECT ONE LEAD WIRE FROM THESE PARTS AND THEN CHECK CONTINUITY WITHOUT THE POWER SOURCE ON. TO DO OTHERWISE MAY RESULT IN A FALSE READING OR DAMAGE TO YOUR METER.
5. DO NOT TOUCH ANY PART OF THE CIRCUIT OR THE CONTROL CIRCUIT BOARD, SINCE STATIC DISCHARGE MAY DAMAGE IT. ALWAYS TOUCH GROUND WHILE WORKING ON IT TO DISCHARGE ANY STATIC CHARGE BUILT UP.

6-1 Electrical Malfunction

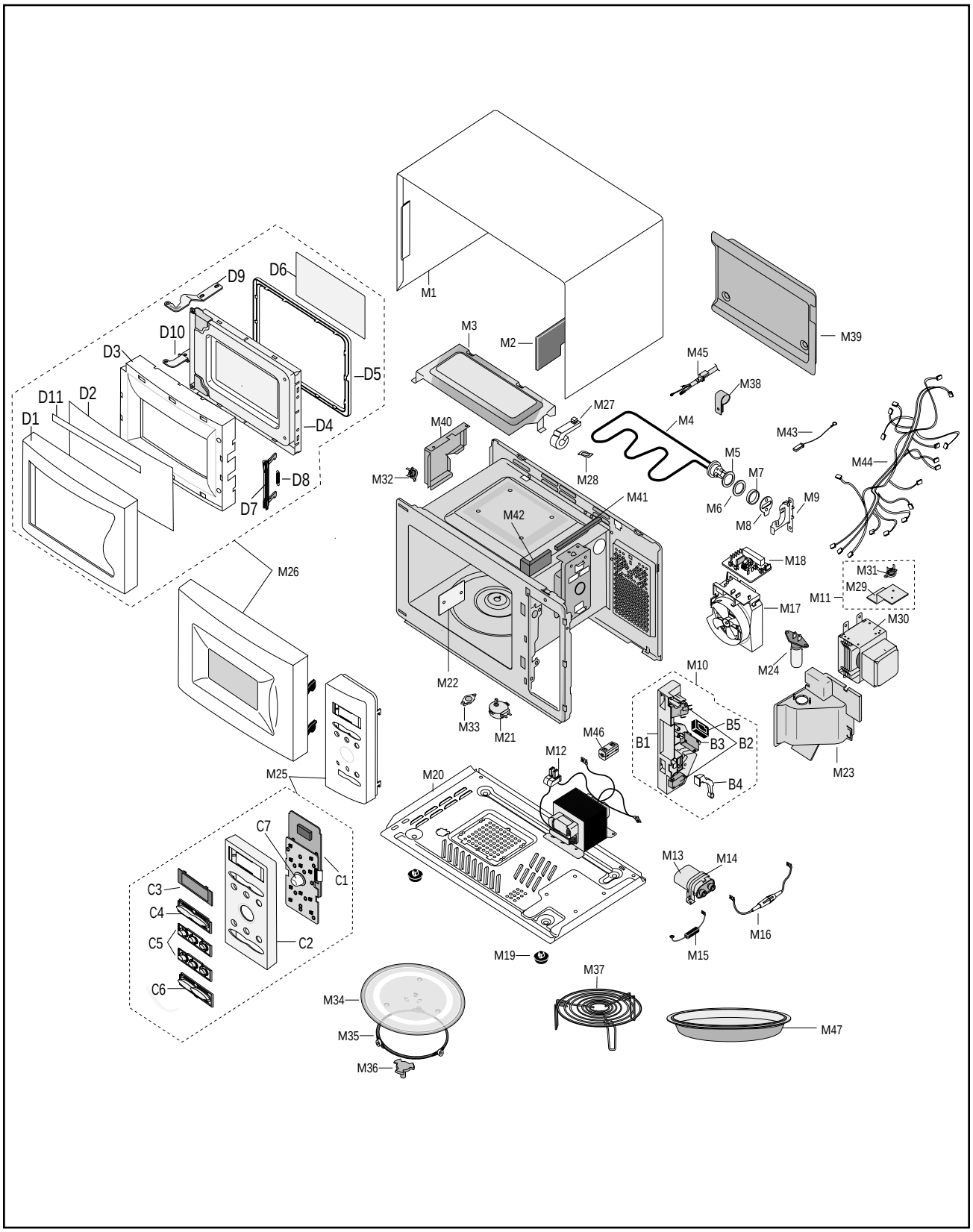
SYMPTOM	CAUSE	CORRECTIONS
Oven is dead. Fuse is OK. No display and no operation at all.	1. Open or loose lead wire harness 2. Open thermal cutout (Magnetron) 3. Open low voltage transformer 4. Defective Ass'y PCB	Check fan motor when thermal cutout is defective. Check Ass'y PCB when LVT is defective.
No display and no operation at all. Fuse is blown.	1. Shorted lead wire harness 2. Defective primary latch switch (NOTE 1) 3. Defective monitor switch (NOTE1) 4. Shorted HVCapacitor 5. Shorted HVTransformer (NOTE2)	Check adjustment of primary, interlock monitor, door sensing switch.
	NOTE 1: All of these switches must be replaced at the same time. (refer to adjustment instructions) Check continuity of power relay contacts and if it has continuity, replace power relay also. NOTE 2: When HVTransformer is replaced, check diode and magnetron also.	
Oven does not accept key input (Program)	1. Key input is not in-Sequence 2. Open or loose connection of membrane key pad to Ass'y PCB 3. Shorted or open membrane panel 4. Defective Ass'y PCB	Refer to operation procedure. Replace PCB main.
Timer starts countdown but no microwave oscillation. (No heat while oven lamp and fan motor turn on.)	1. Off-alignment of latch switches 2. Open or loose connection of high voltage circuit especially magnetron filament circuit NOTE: Large contact resistance will bring lower magnetron filament voltage and cause magnetron to lower output and/or intermittent oscillation. 3. Defective high voltage components H.V.Transformer H.V.Capacitor H.V.Diode,H.V.Fuse Magnetron 4. Open or loose wiring of power relay 5. Defective primary latch switch 6. Defective power relay or Ass'y PCB	Adjust door and latch switches. Check high voltage component according to component test procedure and replace if it is defective. Replace PCB main.

6-1 Electrical Malfunction(continued)

SYMPTOM	CAUSE	CORRECTIONS
Oven lamp and fan motor turn on	1. Misadjustment or loose wiring of primary latch switch 2. Defective primary latch switch	Adjust door and latch switches.
Oven can program but timer does not start.	1. Open or loose wiring of secondary interlock switch 2. Off-alignment of primary interlock 3. Defective secondary interlock S/W	Adjust door and interlock switches.
Microwave output is low;. Oven takes longer time to cook food.	1. Decrease in power source voltage. 2. Open or loose wiring of magnetron filament circuit. (Intermittent oscillation)) 3. Aging of magnetron	Consult electrician.
Fan motor turns on when plugged in	Loose wiring of door sensing switch	Check wire of door sensing switch.
Oven does not operate and return to the plugged in mode.	Defective Ass'y PCB	Replace PCB main.
Loud buzzing noise can be heard.	1. Loose fan and fan motor 2. Loose screws on H.V.Transformer 3. Shorted H.V.Diode	Tighten screws of fan motor. Tighten screws of H.V.Transformer. Replace H.V.Diode.
Turntable motor does not rotate.	1. Open or loose wiring of turntable motor. 2. Defective turntable motor.	Check the wire of turntable motor Replace turntable motor.
Oven stops operation during cooking	1. Open or loose wiring of primary interlock switch 2. Operation of thermal cutout(Magnetron)	Adjust door and latch switches.
Sparks	1. Metallic ware or cooking dishes touching on the oven wall. 2. Ceramic ware trimmed with gold or silver powder also causes sparks.	Inform the customer. Do not use any type of cookware with metallic trimming.
Uneven cooking	Uneven intensity of microwave due to its characteristics.	Wrap thinner parts of the food with aluminum foil. Use plastic wrap or cover with a lid. Stir once or twice while cooking foods such as soup, cocoa, or milk.
Noise from the turntable motor when it starts to operate.	Noise may result from the motor.	Replace turntable motor.

7. Exploded Views and Parts List

7-1 Exploded Views



7-2 Main Parts List

Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks
M 1	DE70-30001A	PANEL-OUTER;SECC T0.6 360 1128 EPOXY-COATING	1	
M 2	DE63-90035G	CUSHION-RUBBER;DFA20 T2 W190 L100 BLK	1	
M 3	DE61-50017A	BRACKET-UPPER;SECC1 T0.6 340 216	1	
M 4	DE47-70031G	HEATER-GRILL;D6.6 230V1280W M9G45 SJH	1	
M 5	DE63-20017A	GASKET-HEATER;BRASS T1.5 OD30.5 ID22.5	1	
M 6	DE60-40009B	WASHER-TEFLON;SLOT ID22.2 OD28 T1.2 TEFL	1	
M 7	DE61-50021A	BRACKET-FLANGE;SECC1 T0.8 32 32	1	
M 8	DE61-50177A	BRACKET-EARTH;BSS2-A T1.0 W28 L38 M9GF45	1	
M 9	DE61-50027B	BRACKET-HEATER;SECC T1.0 W51 L55 CE945GF	1	
M 10	DE93-20001A	ASSY BODY LATCH;2ND-W1 M97G45/M9745	1	
M 11	DE91-70101C	ASSY-THERMOSTAT;MW5574W 160/60 187 HORIZ	1	
M 12	DE26-10100A	TRANS-H.V;SHV-945EG1 230V 50HZ 2310V DPC	1	
M 13	2501-001019	C-OIL;HCH212110C 1.10UF,2100V 35X54X90,2	1	● ⚠
M 14	DE61-50106A	BRACKET-HVC;SECC T0.8 W31 L125.8	1	
M 15	DE59-40001A	DIODE-H.V;HVR-1X-32B 12	1	
M 16	DE91-70061A	ASSY-H.V.FUSE;THV060T-0800-H 5KV/0.8A WH	1	
M 17	DE31-10156A	MOTOR-FAN;SMF-945EA 230/50 2400 M97G45	1	
M 18	DE91-40095A	ASSY NOISE FILTER;SN-E10D(N) 250V 10A “2	1	
M 19	DE61-40017A	FOOT;PP(A353) BLK MW5630T	2	
M 20	DE80-10001A	BASE-PLATE;SGCC T0.8 345 565	1	
M 21	DE31-10154A	MOTOR-DRIVE;M2HJ49ZR02,ST-16 21V 5/6	1	
M 22	DE71-60382A	COVER-CEILING;MICA-SHEET 0.5 70 133	1	
M 23	DE71-60016A	COVER-AIR;PP 2 WHT M945/MB45	1	
M 24	4713-001031	LAMP-INCANDESCENT;230V,170mA,40W,ORG,-,-,25x	1	
M 25		ASSY CONTROL-BOX;230V50HZ CE955G(SDW)	1	● ⚠
M 26		ASSY DOOR;HANDEL WHT CE937G(SDW) SEI	1	● ⚠
M 27	DE61-30006A	SUPPORTER-HEATER;ALUMINA 5G 2ND-W/P	1	
M 28	DE61-70060A	SPRING-PLATE;SK-5 T0.5	1	
M 29	DE61-50490A	BRACKET-TCO;SECC1 T0.6 34 58	1	
M 30	DE03-30035A	MAGNETRON;OM75PH((31)ESS	1	⚠
M 31	DE47-20009A	THERMOSTAT;CS-7SA(160/60)187Y 250V7.5A 160	1	
M 32	DE47-20161A	THERMOSTAT;PW2N(120/110)187Z23. 250V/7.5	1	
M 33	DE47-20008A	THERMOSTAT;CS-7S(100/60)187Y 250V7.5A 100	1	
M 34	DE74-20015B	TRAY-COOKING;GLASS T6.0 PI318 1050G MW5630T	1	
M 35	DE92-90189D	ASSY-GUIDE ROLLER;D19 STD	1	
M 36	DE67-60075A	COUPLER;PPS 7G BRN M97G45	1	
M 37	DE74-70003B	RACK-WIRE;MSWR3 3 3 290 125 SNC2	1	
M 38	DE65-20014A	CABLE CLAMP;DA-6N NY-66	1	
M 39	DE71-60015A	COVER-BACK;SECC1-Z T0.5 353 526 CE945G	1	
M 40	DE72-60005A	GUIDE-AIR;SECC1-P T0.5 210 225	1	
M 41	DE63-90065N	CUSHION-GUIDE;PUT-FOAM T10 W10 L200 BLK	1	
M 42	DE63-90065O	CUSHION-GUIDE;PUT-FOAM T35 W20 L135 BLK	1	
M 43	DE39-40409A	ASSY WIRE HARNESS-E;230V50HZ M9G45 CTW	1	
M 44	DE39-40568A	ASSY WIRE HARNESS-A;230V50HZ CE745G/CE94	1	
M 45	DE39-20058C	ASSY POWER CORD;KKP-4819D/B232 250V16A L	1	
M 46	DE73-90027A	FERRITE-CORE;NI-ZN T13.8 W21.0 L28.0 BNF-14	1	
M 47	DE74-20107A	TRAY-BROILER;AL T0.8 PI345 ENAMEL SILIC	1	

● : Option Parts ⚠ : Warning ⚠ :Electrostatically Sensitive Devices

7-3 Door Parts List

Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks
D 1	DE64-40274A	DOOR-A;ABS T3 W284 L411 350G WHT M957	1	● ⚠
D 2	DE64-40280C	DOOR-SCREEN;PC T2.0 W252.5 L392.6 CE937/CE	1	
D 3	DE61-40275A	DOOR-SUB;ABS T2.5 W261 L398.7 300G WHT M957	1	
D 4	DE92-50127H	ASSY DOOR-E;COAT BLACK T0.8	1	
D 5	DE64-40012A	DOOR-C;RESIN-PP(TB53) T2.0 CE945GF BLA	1	
D 6	DE01-00002A	FILM-DOOR;PET T0.15 275 175 NTR CE945GF	1	
D 7	DE64-40006A	DOOR-KEY;POM(TC3005) T2.0 12GR BLK CE9	1	
D 8	DE61-70032A	SPRING-KEY;ES HSWR PI0.6 D5.4 L25 MW8640	1	
D 9	DE61-80002A	HING-UPPER;SCP1 T2.3 26 77 ZPC3 WHT CE945G	1	
D 10	DE61-80003A	HING-UPPER;SCP1 T2.3 26 77 ZPC3 WHT CE945G	1	
D 11	DE02-00125A	TAPE-DOUBLE FACE;ACRYL T0.45 W9 WHT WF103	1	

7-4 Control Parts List

Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks
C 1	DE91-10433A	ASSY P.C.B-MAIN;230V50HZ NS VFD CE957G(EURO	1	●
C 2	DE72-70182A	CONTROL-PANEL;ABS 220G WHT T3 CE957G(SKW)	1	
C 3	DE67-40147A	WINDOW-DISPLAY;ACRYL SMOG M757/CE757G	1	● ⚠
C 4	DE36-20183B	BUTTON-SELECT-B;ABS(HR-0370D) WHT M757(SDW/	1	●
C 5	DE66-20185A	BUTTON-SELECT-A;ABS WHT M757/CE757G	2	
C 6	DE66-20184A	BUTTON-SELECT-C;ABS(HR-0370D) WHT M757(SKW,	1	● ⚠
C 7	DE64-10128A	KNOB;ABS(HR-0370D) WHT M757/CE757G	1	

7-5 Body Latch Parts List

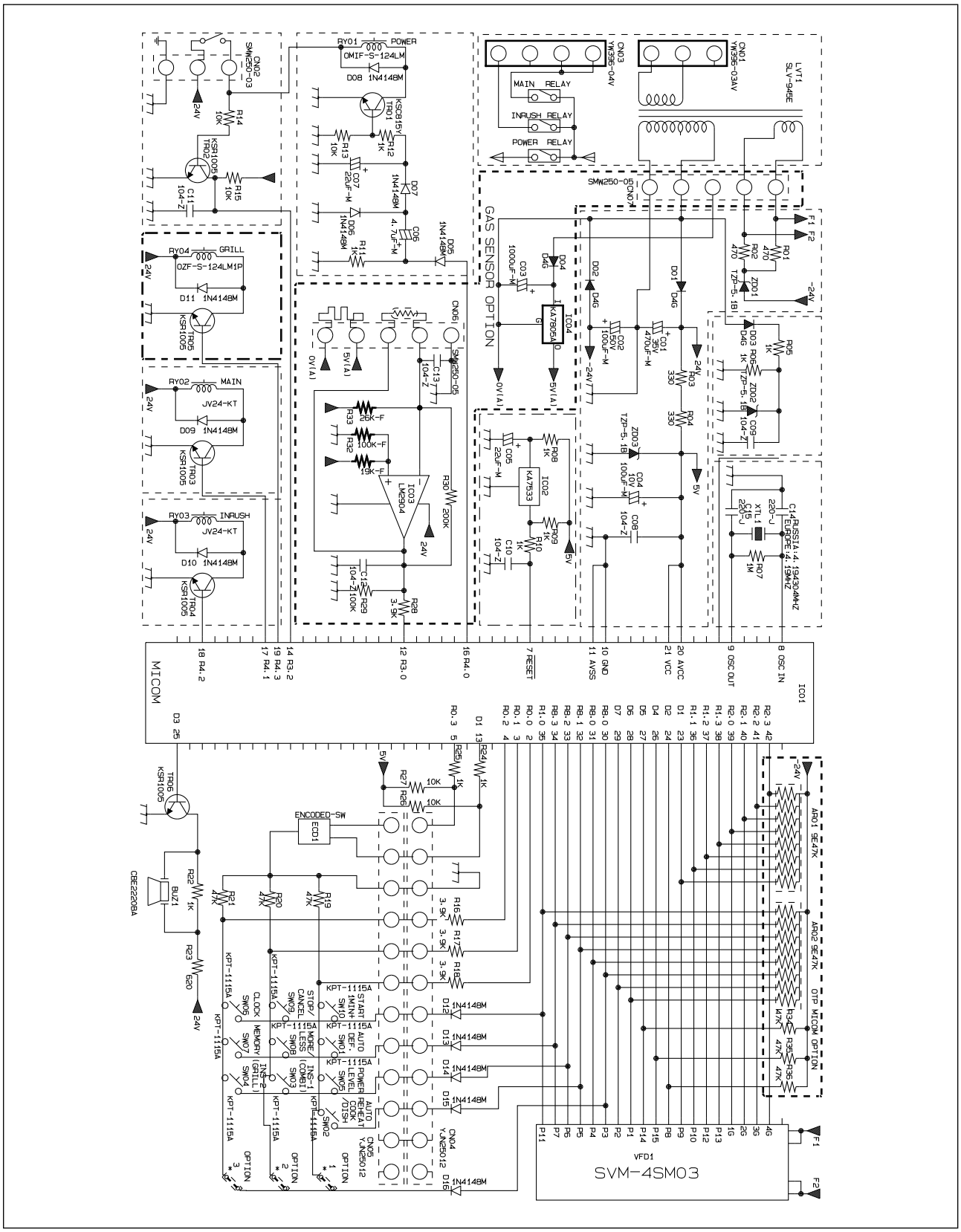
Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks
B 1	DE66-40001A	LATCH-BODY;POM(F20-02) 40GR NTR	1	
B 2	3405-000178	SWITCH-MICRO;VP-533A-OF-PS(T85) 250V,15A	2	
B 3	3405-000175	SWITCH-MICRO;VP-531A-OF(T85) 250V,15A,20	1	
B 4	DE66-90001A	LEVER-SWITCH;P.O.M(F20-02) 2 6 NTR 2ND-W	1	
B 5	DE72-60106A	GUIDE-S/W;ABS BLK	1	

7-6 Standard Parts List

Parts No.	Description / Specification	Q'ty	Remarks
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	3	B/UPP
DE60-10045A	SCREW-TAP PH;PH M3 L6 FEFZY	1	AR-TCO
DE60-10033A	SCREW-TH;TH + M4 L10 MSWR10 FEFZY	2	HIN-UP
DE60-10033A	SCREW-TH;TH + M4 L10 MSWR10 FEFZY	2	HI-LOW
DE60-10018A	SCREW-ASSY MACHINE;PH M4X0.7P 8 MSWR10 S	2	B/EATH
DE60-10013A	SCREW-ASSY TAP;TH 2S 4 L12 MSWR3 ZPC3 FI	1	C-BLOW
DE60-10098A	SCREW-ASSY TAPTITE;PH TC M4X8 SWRCH18A Z	2	MGT-TC
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	1	CV/AIR
DE60-10082A	SCREW-A;M4 L12 2S TOOTHED	2	CON-PA
DE60-10082A	SCREW-A;M4 L12 2S TOOTHED	5	O/PANE
DE60-10082A	SCREW-A;M4 L12 2S TOOTHED	2	B/LATC
DE60-10080A	SCREW-WASHER;M5 L12 2S	4	MGT
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	MEM/PA
DE60-10080A	SCREW-WASHER;M5 L12 2S	4	HVT
DE60-10098A	SCREW-ASSY TAPTITE;PH TC M4X8 SWRCH18A Z	2	MO/DRI
DE60-10098A	SCREW-ASSY TAPTITE;PH TC M4X8 SWRCH18A Z	1	CV-TCO
DE60-10082C	SCREW-TAP TH;TH M4 L8 MSWR3 ZPC YWL WS	1	B-HVC
DE60-10082A	SCREW-A;M4 L12 2S TOOTHED	2	BASE
DE60-10088A	SCREW-TAP PH;PH M3 L8 FEFZY PLAIN	2	PCB
DE60-10122A	SCREW-TAP TH;TAP TH 2-4X8 FE FN	2	C-CEIL
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2		1NO-FIL
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	P-CO-E
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	BASE
DE60-10024A	SCREW-PH;PH + M4 L8 MSWR10 ZPC3	2	B/HEAT
DE60-10072A	SCREW-TAP TH;TH M4 L16 FEFZY 2-SLOT	1	CB-CMP
DE60-10072A	SCREW-TAP TH;TH M4 L16 FEFZY 2-SLOT	1	CB-CMP

8. P.C.B Diagrams

8-1 P.C.B Diagrams



8-2 P.C.B Parts List

Parts No.	Description / Specification	Q'ty	Remarks
0401-001002	DIODE-SWITCHING;1N4148M,100V,200mA,500mW	16	D4~19
0402-000559	DIODE-RECTIFIER;D4G,400V,1A,T-1	3	D1~3
0403-000387	DIODE-ZENER;UZP24B,24V,22.8-25.6V,1W,DO-	1	ZD04
0501-000283	TR-SMALL SIGNAL;KSA539-Y,PNP,400mW,TO-92	1	TR01
0501-000388	TR-SMALL SIGNAL;KSC815-Y,NPN,400mW,TO-92	1	TR03
0504-001014	TR-DIGITAL;KSR1005,NPN,300mW,4.7K-10K,TO	6	TR2,4~8
0504-001015	TR-DIGITAL;KSR2005,PNP,300mW,4.7K-10K,TO	1	TR09
2001-000037	R-CARBON(S);330ohm,5%,1/2W,AA,TP,2.4x6.4	2	R1,2
2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	1	R16
2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	6	R12~14,19~21
2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	8	R5,6,8~10,18,22,23
2001-000435	R-CARBON;1Mohm,5%,1/8W,AA,TP,1.8x3.2mm	1	R07
2001-000613	R-CARBON;3.9Kohm,5%,1/8W,AA,TP,1.8x3.2m	7	R11,15,17,24~27
2001-000780	R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm	2	R3,4
2011-001072	R-NETWORK;47Kohm,5%,1/8W,A,SIP,6P,TP	1	AR01
2202-000780	C-CERAMIC,MLC-AXIAL;UP050F104Z 100NF,+80	5	C5,6,9,10,19
2202-000796	C-CERAMIC,MLC-AXIAL;UP050B102KB 1NF,10%,	4	C11~14
2401-000247	C-AL;1SA1ANB107MAN 100UF,20%,10V,GP 6.3X	1	C03
2401-000914	C-AL;CESSL1C220M0511AA 22UF,20%,16V,GP 5	1	C04
2401-001412	C-AL;1SG1VFB477MAN 470UF,20%,35V,GP 10X1	1	C01
2802-000143	RESONATOR-CERAMIC;KBR-4.19M 4.19MHZ,0.5%	1	XTL1
3501-001014	RELAY-POWER;OM1F-S-124LM 24V,21.8MA,17A	1	RY01
3501-001015	RELAY-POWER;OZF-S-124LM1P 24V,21.8MA,16A	1	RY04
3501-001016	RELAY-MINIATURE;JV24-KT 24V,12.5MA,5A 1F	1	RY02
3501-001016	RELAY-MINIATURE;JV24-KT 24V,12.5MA,5A 1F	1	RY03
3708-000528	CONNECTOR-FPC/FC/PIC;FCZ254-13SL,BLK 13P	1	CN04
3711-000203	CONNECTOR-HEADER;YW396-03AV WHT STRAIGHT	1	CN01
3711-000240	CONNECTOR-HEADER;1WALL,4P,1R,3.96mm,STRA	1	CN02
3711-000881	CONNECTOR-HEADER;SMW250-03,WHT BOX,3P,1R	1	CN03
71607-402-290	C-ELEC;04W 50V 100UF (TAPG)	1	C02
A1100-1049	C-CERAMIC;CC OA CH 50V T 220-J 3.5X1.9 U	2	C7,8
A4106-0154	DIODE-ZENER;TZP5.1B 5.1/5.7V 40MA T 1W	3	ZD1~3
DE07-10081A	V.F.DISPLAY;SVM-4SM03 GRN/RSHORG 4 51 81	1	VFD1
DE09-30509A	IC-MCU;HD404316-C16S DIP CE945G/CE745G(E	1	IC01
DE13-20009A	IC;KA7533 DIP	1	IC02 ⚠
DE26-20141A	TRANS-L.V;SLV-945E 230V 50HZ AC17/2.9V	1	LVT1
DE30-20016A	BUZZER;CBE2220BA STICK	1	BUZ1 ⚠
DE39-60001A	WIRE-SO COPPER;PI0.6 SN T 52MM TAPING_WI	25	J1~25
DE41-10361A	P.C.B-MAIN;FR-1 T1.6 W88 L163 EU2(M945)	1	
DE60-60012A	PIN-EYELET;ID2.1 OD2.5 L3.0 SN BSP T0.25	8	E1~8
DE61-90004A	HOLDER-DIGITRON;NYLON#66 1.5 85 36 8GR B	1	

9. Schematic Diagrams

9-1 Schematic Diagrams